

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:  
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## PCT

### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing  
(day/month/year)

26 JUN 2003

Applicant's or agent's file reference

BUR9403

#### IMPORTANT NOTIFICATION

International application No.

PCT/US02/04735

International filing date (day/month/year)

14 February 2002 (14.02.2002)

Priority date (day/month/year)

16 February 2001 (16.02.2001)

Applicant

ALAB, LLC

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

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JUL 02 2003

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

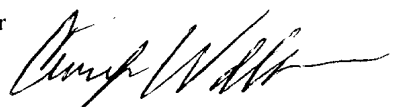
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>BUR9403</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/US02/04735</b>	International filing date (day/month/year) <b>14 February 2002 (14.02.2002)</b>	Priority date (day/month/year) <b>16 February 2001 (16.02.2001)</b>
International Patent Classification (IPC) or national classification and IPC <b>IPC(7): B01J 19/08 and US Cl.: 422/186.07</b>		
Applicant <b>ALAB, LLC</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.  
  
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_ sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the report
  - II ☐ Priority
  - III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand <b>12 September 2002 (12.09.2002)</b>	Date of completion of this report <b>02 June 2003 (02.06.2003)</b>
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer <b>THAO TRAN</b>  Telephone No. 703-308-0661

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US02/04735

**I. Basis of the report**1. With regard to the **elements** of the international application:\*

- ☒ the international application as originally filed.
- ☒ the description:  
pages 1-11 \_\_\_\_\_ as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the claims:  
pages 12-15 \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, as amended (together with any statement) under Article 19  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the drawings:  
pages 1-15 \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the sequence listing part of the description:  
pages NONE \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/US02/04735**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-31</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-31</u>	NO
Industrial Applicability (IA)	Claims <u>1-31</u>	YES
	Claims <u>NONE</u>	NO

**2. CITATIONS AND EXPLANATIONS**

a/ Claims 1-31 lack novelty under PCT Article 33(2) as being anticipated by Morita et al. (JP 2000-308815).

In Figures 1-3 and 7, Morita et al. teach an apparatus, comprising a water tank A; a corona discharge (silent discharge) ozone generator 3 or 32; an ozone mixing system 4 or 31 (including ejector 44 and mixer 45); a circulation system 15 (recovery system); a gas-liquid separator 8 or 33; an ozone decomposer 9 or 10 to decompose ozone before the gas is released into the atmosphere; a pump 27 and pipe 28 to supply water to the ozone-water mixing system 4 or 31 (see Prior Art section; Means section; Example).

Morita et al. are silent with respect to a protection system that prevents liquid from entering the ozone generator. However, since the reference teaches the use of an ejector or a pump to supply ozone-containing gas to the mixing system, the ejector or the pump would inherently prevent the liquid from entering the ozone generator.

Morita et al. further teach the use of a pump to maintain proper pressure in the liquid circulation passageway (see Means section, Drawing 3); more ozone is generated than that dissolved in the water (see Prior Art section); an inline mixer at the downstream of the ejector to form bubbles in water (see Means section, Drawing 3).

Furthermore, it has been held within the skill in the art that the material to be worked upon, the products, or the manner of operation of an apparatus would have insignificant patentable weight in apparatus claims.

b/ Claims 1-31 meet the criteria set out in PCT Article 33(4).

----- NEW CITATIONS -----

JP 2000-308815 (MORITA et al) 11 July 2000, see abstract; Figures 1-3; Prior Art section; Means section.